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March 19, 2002

BOX PCT

Commissioner for Patents
Washington, D.C. 20231

PCT/FR00/02504
-filed September 12, 2000

Re: **Application of Jean SATTler and Philippe DEROUAULT**
ROTARY EXTRUSION/BLOW-MOLDING BOOK MOLD MACHINE
Assignee: SIDEL
Our Ref: Q68795

Dear Sir:

The following documents and fees are submitted herewith in connection with the above application for the purpose of entering the National stage under 35 U.S.C. § 371 and in accordance with Chapter II of the Patent Cooperation Treaty:

- ☐ an executed Declaration and Power of Attorney.
- ☒ an English translation of the International Application.
- ☒ 2 sheets of drawings.
- ☐ an English translation of Article 19 claim amendments.
- ☐ an English translation of Article 34 amendments (annexes to the IPER).
- ☐ an executed Assignment and PTO 1595 form.
- ☒ a Form PTO-1449 listing the ISR references, and a copy of the ISR.
- ☒ a Preliminary Amendment

The Declaration and Power of Attorney and Assignment documents will be submitted at a later date.

It is assumed that copies of the International Application, the International Search Report, the International Preliminary Examination Report, and any Articles 19 and 34 amendments as required by § 371(c) will be supplied directly by the International Bureau, but if further copies are needed, the undersigned can easily provide them upon request.

The Government filing fee is calculated as follows:

[illegible]



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A check for the statutory filing fee of \$890.00 is attached. You are also directed and authorized to charge or credit any difference or overpayment to Deposit Account No. 19-4880. The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16, 1.17 and 1.492 which may be required during the entire pendency of the application to Deposit Account No. 19-4880. A duplicate copy of this transmittal letter is attached.

Priority is claimed from:

Country

Application No

Filing Date

France

99/12370

September 29, 1999

Respectfully submitted,

Paul F. Neils

Registration No. 33,102

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Date: March 19, 2002

Attorney Docket No.: Q68795

PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

PCT/FR00/02504

Jean SATTLER, et al.

Appln. No.: Not Yet Assigned

Confirmation No.: Unknown

Group Art Unit: Unknown

Filed: March 19, 2002

Examiner: Unknown

For: ROTARY EXTRUSION/BLOW-MOLDING BOOK MOLD MACHINE

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination, please amend the above-identified application as follows:

IN THE CLAIMS:

Please enter the following amended claims:

5. (Amended) Machine according to claim 1, wherein the molding unit (12) is mounted on a cradle (20) that is articulated on the carrousel (10) by an inner radial side with respect to the axis of rotation (A1) of the carrousel (10).

6. (Amended) Machine according to claim 1, wherein both parts (18) of the molding unit (12) are movable with respect to each other in a direction that is appreciably radial with respect to the axis of rotation (A1) of the carrousel (10).

7. (Amended) Machine according to claim 1, wherein the mold has at least two cavities (30a, 30b) that are offset along a direction tangential to the path of the carrousel (10), and wherein the extrusion head (16) has as many dies as the mold has cavities in order

PRELIMINARY AMENDMENT
National Stage of PCT/FR00/02504

simultaneously to furnish that many parallel preforms (15a, 15b) the separation of which corresponds appreciably to the offset of the cavities (30a, 30b).

8. (Amended) Machine according to claim 1, wherein the tilting of the molding unit (12) from its working position to its tilted position is forced by drive means.

9. (Amended) Machine according to claim 1, wherein the rotation of the carrousel (10) around its axis (A1) is continuous.

IN THE ABSTRACT:

Please insert the following Abstract of the Disclosure.

An extrusion blow-molding machine, including several molding units borne by a carrousel rotating about a substantially vertical axis (A1), wherein each molding unit is mounted on the carrousel such that it can be tilted about a substantially horizontal axis (An).

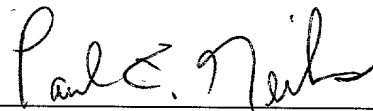
PRELIMINARY AMENDMENT
National Stage of PCT/FR00/02504

REMARKS

The foregoing amendments are made in order to remove multiple dependencies and avoid the Government surcharge, as well as make editorial changes to conform with U.S. Practice. The changes have not been made for reasons related to patentability.

Entry and consideration of this Amendment is respectfully requested.

Respectfully submitted,



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Date: March 19, 2002

Attorney Docket No.: Q68795

APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

5. (Amended) Machine according to [any of the preceding claims] claim 1, [characterized in that] wherein the molding unit (12) is mounted on a cradle (20) that is articulated on the carrousel (10) by an inner radial side with respect to the axis of rotation (A1) of the carrousel (10).

6. (Amended) Machine according to [any of the preceding claims] claim 1, [characterized in that] wherein both parts (18) of the molding unit (12) are movable with respect to each other in a direction that is appreciably radial with respect to the axis of rotation (A1) of the carrousel (10).

7. (Amended) Machine according to [any of the preceding claims] claim 1, [characterized in that] wherein the mold has at least two cavities (30a, 30b) that are offset along a direction tangential to the path of the carrousel (10), [in that] and wherein the extrusion head (16) has as many dies as the mold has cavities in order simultaneously to furnish that many parallel preforms (15a, 15b) the separation of which corresponds appreciably to the offset of the cavities (30a, 30b).

8. (Amended) Machine according to [any of the preceding claims] claim 1, [characterized in that] wherein the tilting of the molding unit (12) from its working position to its tilted position is forced by drive means.

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9. (Amended) Machine according to [any of the preceding claims] claim 1,
[characterized in that] wherein the rotation of the carrousel (10) around its axis (A1) is
continuous.

IN THE ABSTRACT OF DISCLOSURE:

The abstract is inserted as follows:

An extrusion blow-molding machine, including several molding units borne by a
carrousel rotating about a substantially vertical axis (A1), wherein each molding unit is mounted
on the carrousel such that it can be tilted about a substantially horizontal axis (An).

Rotary extrusion/blow-molding book mold machine

The invention concerns a rotary extrusion/blow-molding machine.

5 More particularly, it concerns machines provided with several molding units carried by a carrousel that is rotatable around an appreciably vertical axis. In a known way, each molding unit has a two-part mold, both parts being movable with respect to each other between an open position and a closed position.

10 These machines also have an extrusion head that is placed above the carrousel in a specific angular position around the carrousel's axis of rotation.

Each mold is controlled to be in the open position when the corresponding unit is located below the extrusion head, and to close again after having seized a section of preform flowing from the extrusion head.

15 The invention is applicable more particularly in the case of machines in which each molding unit is mounted on the carrousel in a way that is movable between a working position and a retracted position to which it is taken just after the section of preform is seized.

20 The EP-A-0.284.242 document describes a machine of this type. In this instance it is a sequential type machine in which the rotation of the carrousel is not continuous.

25 The machine described in this document has molding units that can slide vertically with respect to the carrousel between an upper working position and a lower retracted position. Immediately after a molding unit has seized a section of preform, and until this unit has been released below the extrusion head by rotation of the carrousel, the molding unit is moved toward its retracted position. This makes it possible to prevent the preform from spilling over onto the upper face of the mold during extrusion in a situation in which the preform or preforms are continuously extruded.

30 The vertical sliding of the molding unit corresponds precisely to the direction of extrusion of the preform. The magnitude of the movement of the molding unit should therefore correspond to at least the

length of preform that is extruded during the time the blow-molding unit is immobilized beneath the extrusion head. With this design, a free space must therefore necessary be provided beneath the working level of the molding units, to allow their retraction. This free space therefore significantly
5 increases the total height of the machine.

Moreover, the slidable mounting of the molding units is particularly difficult to accomplish satisfactorily. Excellent guidance must be provided to ensure that the unit is perfectly stable, while still allowing relatively fast movement at the time the unit is released.

10 A purpose of the invention, therefore, is to propose an improved design of a machine of the type described above, this design allowing machines to be produced that have a high rate of production.

To that end, the invention proposes a machine of the type described above, characterized in that the molding unit is mounted on the carrousel in
15 order to be able to tilt around an appreciably horizontal axis.

According to other characteristics of the invention:

- the molding unit is articulated around an axis that is appreciably tangent to the path of the carrousel;

- the axis of articulation is vertically off center with respect to the top
20 of the molding unit in the working position so that, at the beginning of the tilting movement, the movement of the top of the molding unit has a horizontal component;

- the part of the molding unit over which the extrusion head passes during the tilting movement has a chamfered shape;

- the molding unit is mounted on a cradle that is articulated on the
25 carrousel by an inner radial side with respect to the axis of rotation of the carrousel;

- both parts of the molding unit are movable with respect to each other in a direction that is appreciably radial with respect to the axis of
30 rotation of the carrousel;

• the mold has at least two cavities that are offset along a direction tangential to the path of the carrousel, and the extrusion head (16) has as many dies as the mold has cavities in order simultaneously to furnish that many parallel preforms (15a, 15b) the separation of which corresponds appreciably to the offset of the cavities (30a, 30b);

• the tilting of the molding unit from its working position to its tilted position is forced by drive means; and

• the rotation of the carrousel around its axis is continuous.

Other characteristics and advantages of the invention will appear from the following detailed description, as well as from the attached drawings in which:

• figure 1 is a diagrammatical view in axial cross section of a machine according to the invention;

• figures 2A to 2F and 3A to 3F are drawings illustrating by diagram the relative positions of a molding unit and of preforms extruded by the extrusion head at different moments following the seizing of the sections of preform and the closing of the molding unit, each position being illustrated in side view (2A to 2F) and top view (3A to 3F).

Figure 1 represents the carrousel 10 of a machine for the extrusion/blow-molding of containers from thermoplastic material. For example, such a machine can be used to manufacture polyethylene bottles.

The carrousel 10 is movable in rotation around its axis A1 with respect to a fixed frame (not represented) of the machine. It carries a series of identical molding units 12 installed around its periphery.

The machine also has an extrusion unit 14 that ends in an extrusion head 16 in which a die delivers one or more continuous tubular preforms 15 of thermoplastic material that is still soft. In the example illustrated, the extrusion head 16 delivers two parallel preforms 15a and 15b that flow vertically downward. In the machine according to the invention, the extrusion of the preforms is done continuously, that is, the speed of flow of the preforms is appreciably constant.

The extrusion head occupies a fixed position in the space in such a way that, due to the rotation of the carrousel 10, each molding unit 12 passes in turn under the extrusion head 16.

Indeed, in a known way each molding unit 12 has a two-part mold, each mold part being carried by a support 18. The two supports 18 are movable with respect to each other in a direction that, in the situation illustrated, is appreciably radial with respect to the axis A1 of rotation of the carrousel 10.

As can be seen in the left portion of figure 1, in which a molding station 12 is illustrated open to allow the ejection of a container 28, the two supports 18 are mounted on a cradle 20 of the station 12 so as to be able to slide in radially, but in opposite directions. The opening and closing movement of the supports 18 is controlled by a screw and nut system 22. This system is designed to cause the simultaneous movement in opposite directions of the two supports 18 with respect to the cradle 20.

Thus, when the mold is opened and the molding unit 12 concerned passes beneath the extrusion head 16, the mold can seize a section of preform 15 that hangs below the head 16 and close again on the lower end of the preform. In this instance, the mold seizes a section of each of the two preforms 15a and 15b, each of these two sections being received into a different cavity 30a, 30b of the mold and the cavities 30a, 30b being in the shape of the container 28 to be manufactured. Generally, a cutting device (not represented) is provided in order to easily separate the section of preform that has just been seized by the mold from the rest of the preform 15, which continues to be formed.

According to the invention, in order to prevent this preform that continues to be formed from coming into contact with the upper face 24 of the molding unit 12, each molding unit 12 is mounted on the carrousel 10 in such a way as to be able to tilt around a horizontal axis An between a working position and a retracted position.

The tilting axis An of each molding unit 12 is preferably appreciably perpendicular to the radial plane of symmetry of the unit 12 in consideration, said plane containing the axis A1 of the carrousel 10.

In the working position, the cradle 20 that carries the supports 18 is horizontal so that the supports 18

can slide horizontally for the opening and closing of the mold. The result is that, when the molding unit 12 is in the working position, the general plane of the faces in contact of the two parts of the mold, or the joint plane, is appreciably vertical and perpendicular to a radius of the axis A1.

5 Preferably, the cradle 20 is articulated on the carrousel 10 by the side that is situated toward the interior. Thus, the axis An is radially offset toward the interior and vertically downward with respect to the upper face of the molding unit. In this way, when the molding unit 12 tilts downward around the axis An of its working position to its retracted position, it can be
10 seen that the upper face 24 of the molding unit 12 follows a path that, at least at the beginning of the movement, has a vertical as well as a horizontal component.

In order to avoid the preform 15 that is descending from the extrusion head 16, the upper face 24 of the molding unit 12 retracts downward and
15 radially outward.

Moreover, it can be seen that the molding unit 12 does not have a symmetrical shape with respect to the joint plane of the mold. Indeed, the support 18, which is placed so that it is radially toward the interior and the extrusion head 16 therefore passes over it when the molding unit 12 tips,
20 has a bevel 26 that gives the top of the unit a chamfered shape. Of course, this chamfered shape could also be achieved by a curved surface.

Represented in figures 2A to 2F and 3A to 3F are different successive relative positions of the preforms 15 and of the molding unit 12.

Figures 2A and 3A illustrate a theoretical position in which the
25 cavities of the mold are each vertically aligned with the respective preform 15; the molding unit 12 is closed again and in the working position; and the sections of preform held inside the mold, which extend slightly above the upper face 24 of the molding unit, have just been separated from the preforms 15 in process of formation by appropriate cutting tools.

30 This relative position of the different elements corresponds to an ideal situation and can only be precisely found in a sequential machine

in which the carrousel is stopped periodically when a molding unit is located precisely under the extrusion head in order to seize the preform. In the case of a machine in continuous rotation, of the type envisaged by the applicant, slight offsets could be encountered with respect to this ideal situation to optimize the operation of the machine. Thus the cutting of the preforms could be done slightly before the complete closing of the mold, the cut therefore occurring offset with respect to the exact moment the cavities pass directly below the preforms.

Starting at that instant, different movements influence the relative position of the molding unit 12 and the preforms 15a, 15b. Thus, the extrusion head 16 from which the preforms flow is fixed, but the length of the preforms 15a, 15b increases linearly as a function of time. The molding unit 12 is driven in continuous rotational movement around the axis A1 of the carrousel, and according to the invention, it is driven in a tilting movement around the axis An by pivoting its cradle 20.

Figures 2B, 3B, 2C and 3C clearly show the advantage of the horizontal clearance caused by the circular tilting movement of the molding unit. To be sure, in the absence of this horizontal movement the preform 15a that has just been fed into the front cavity 30a of the mold (considering the circular path of the mold around the axis A1) would pass directly over the rear cavity 30b. Inside this cavity is a section of preform the upper end of which protrudes above the upper face of the molding unit. Also, to prevent any contact between the preform 15a and this protuberance, the molding unit must be made to withdraw very quickly downward.

However, the beginning of the tilting movement of the molding unit is necessarily at a relatively slow speed. Indeed, because of the mass of the molding unit to be put in motion, it cannot be made to accelerate very quickly.

Also, it can be seen in figure 3C that, as a result of the horizontal component of the tilting movement, the preform 15a does not pass above the rear cavity 30b.

Figures 2D, 3D, 2E, 3E show the importance of the chamfered shape of the top of the molding unit. It can be seen that, if there were no bevel 26, that is, if the two supports 18 were completely symmetrical, the preforms would risk coming into contact with the support 18 that is situated radially inside. The presence of the bevel 26 thus makes it possible to limit the magnitude of tilting of the molding unit, and thus to limit the speed of tilting.

In the example illustrated, the tilting movement of the molding unit 12 is controlled, in both directions, by an actuating cylinder. Obviously, however, any type of actuator can be used. In addition, a damper is provided to dampen the tilting movement at the limit of travel both in the retracted position (illustrated in figures 2F and 3F) as well as when it returns to the working position. Moreover, the molding unit is held in the working position by a controlled lock coupled with a mechanical stop.

As soon as a molding unit 12 has crossed the angular sector where the extrusion head 16 is located, it is moved to its working position for the blow-molding operation. According to one preferred form of embodiment, the blow-molding operation is performed with blow pins that are moved vertically downward to penetrate at least partially inside the upper end of each of the sections of preform held in the mold. The use of blow pins rather than blow needles placed in the mold makes it possible to produce containers that have a perfect sized neck.

Because of this, the blow-molding of the containers should be done with the molding unit in a position such that the mold's cavities are oriented vertically.

Of course, the machine has as many blow-molding units 38 as molding units 12, and each of the blow-molding units 38 has two blow pins 40. An upper plate of the carrousel carries the blow-molding units 38, and it can be seen that they are radially movable with respect to the carrousel between an outer radial position, in which the pins 40 are directly over the cavities of the respective molding unit, and a position retracted radially toward

the interior. As can be seen in the right part of figure 1, the blow pins must be radially retracted toward the interior when they pass into the angular sector in which the extrusion unit 14 is located. Otherwise, the pins 40 would collide with the extrusion head 16.

5 According to another feature of the machine according to the invention, each molding unit 12 is not articulated directly on the carrousel 10, but on a base 42 that is attached (removable) to the carrousel 10. The actuating cylinder, the damper and the lock are also mounted on the base 42 so that in the event of failure of a molding unit 12, the unit can be
10 removed very quickly simply by detaching the base from the carrousel 10. This makes it possible to limit the down time of the machine, which can continue to manufacture containers even with one less molding unit. It is even possible to provide a standby blow-molding unit to immediately replace the defective unit at least for the time required to repair it.

15 The provision of tilting molding units is particularly beneficial because of the very small increase in height that this involves for the machine. In addition, a pivot connection can easily be made between the cradle 20 and the base 42, which is particularly rigid, to ensure the perfect positioning of the molding unit 12 with respect to the blow-molding units 38 and the
20 extrusion head 16.

Thus, the machine according to the invention makes it possible to expect high operating speeds while still being perfectly reliable.

CLAIMS

1. Extrusion/blow-molding machine, of the type having several molding units (12) carried by a carrousel (10) that is rotatable around an appreciably vertical axis (A1), of the type in which each molding unit (12) has a two-part mold, both parts being movable with respect to each other between an open position and a closed position, of the type in which the machine has an extrusion head (16) that is placed above the carrousel in a specific angular position around the carrousel's axis of rotation (A1), of the type in which each mold is controlled to be in the open position when the corresponding unit (12) is located below the extrusion head (16), and to close again after having seized a section of preform (15) flowing from the extrusion head (16), and of the type in which each molding unit (12) is mounted on the carrousel in a way that is movable between a working position and a retracted position to which it is taken just after the section of preform (15) is seized, characterized in that each molding unit (12) is mounted on the carrousel is as to be able to tilt around an appreciably horizontal axis (An).

2. Machine according to claim 1, characterized in that the molding unit (12) is articulated around an axis (An) that is appreciably tangent to the path of the carrousel.

3. Machine according to claim 2, characterized in that the axis of articulation (An) is vertically off center with respect to the top (24) of the molding unit (12) in the working position so that, at the beginning of the tilting movement, the movement of the top (24) of the molding unit has a horizontal component.

4. Machine according to claim 3, characterized in that the part (18) of the molding unit (12) over which the extrusion head passes during the tilting movement has a chamfered shape (26).

5. Machine according to any of the preceding claims, characterized in that the molding unit (12) is mounted on a cradle (20) that is articulated on the carrousel (10) by an inner radial side with respect to the axis of rotation (A1) of the carrousel (10).

6. Machine according to any of the preceding claims, characterized in that both parts (18) of the molding unit (12) are movable with respect to each other in a direction that is appreciably radial with respect to the axis of rotation (A1) of the carrousel (10).

7. Machine according to any of the preceding claims, characterized in that the mold has at least two cavities (30a, 30b) that are offset along a direction tangential to the path of the carrousel (10), in that the extrusion head (16) has as many dies as the mold has cavities in order simultaneously to furnish that many parallel preforms (15a, 15b) the separation of which corresponds appreciably to the offset of the cavities (30a, 30b).

8. Machine according to any of the preceding claims, characterized in that the tilting of the molding unit (12) from its working position to its tilted position is forced by drive means.

9. Machine according to any of the preceding claims, characterized in that the rotation of the carrousel (10) around its axis (A1) is continuous.

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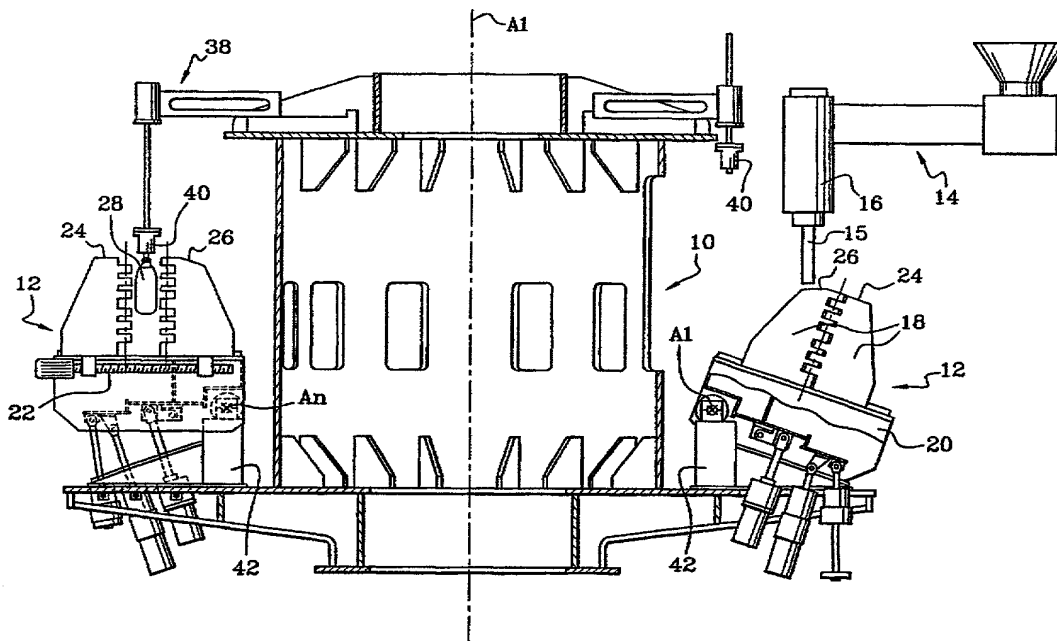
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DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,
ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
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NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,
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[Suite sur la page suivante]

(54) Title: ROTARY EXTRUSION-BLOW MOULDING MACHINE WITH TILTING MOULDS

(54) Titre: MACHINE ROTATIVE D'EXTRUSION-SOUFFLAGE A MOULES BASCULANTS

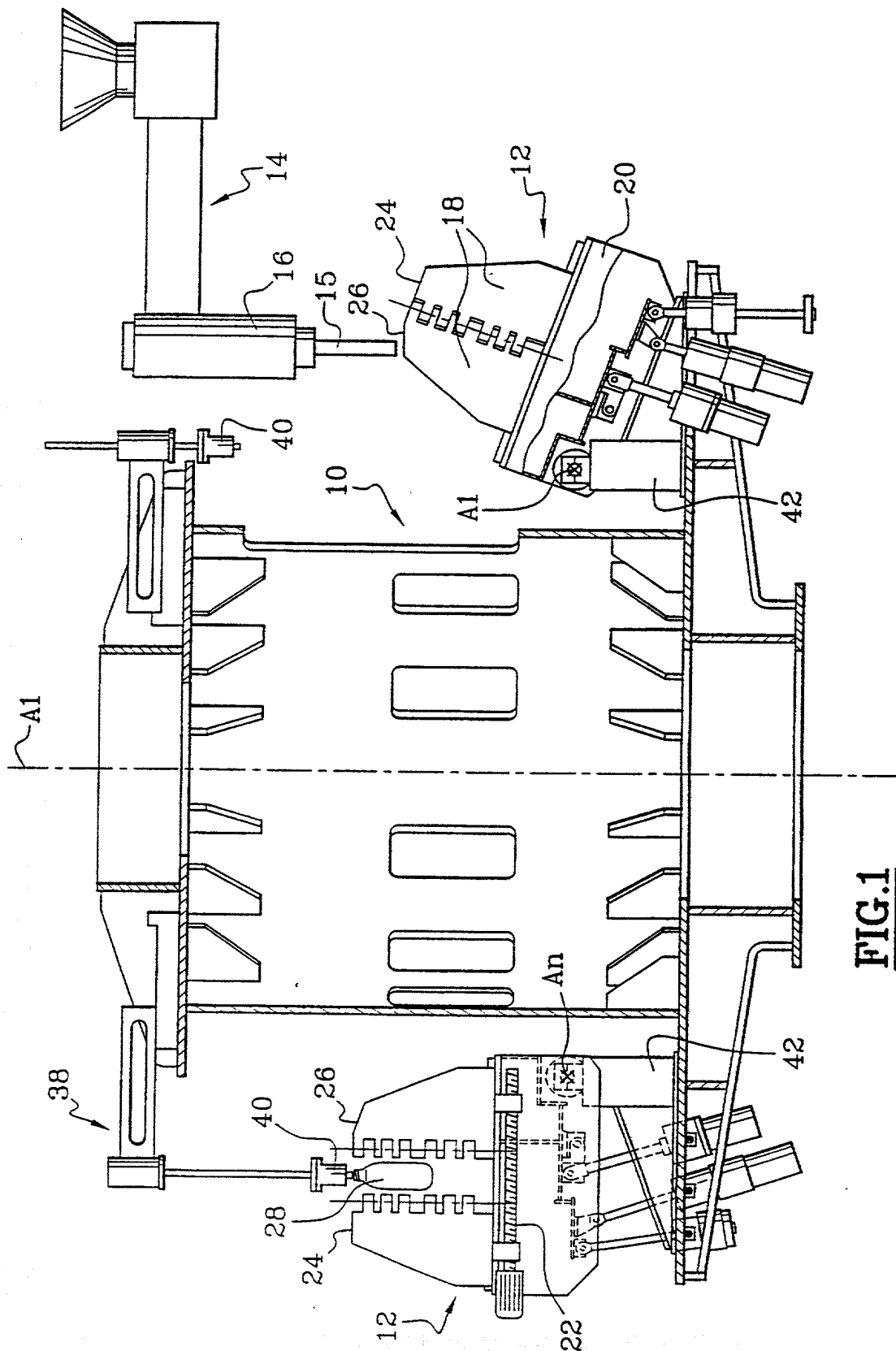


(57) Abstract: The invention concerns an extrusion blow-moulding machine, comprising several moulding units (12) borne by a carousel (10) rotating about a substantially vertical axis (A1), characterised in that each moulding unit (12) is mounted on the carousel such that it can be tilted about a substantially horizontal axis (An).

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1/2



2/2

FIG.2a

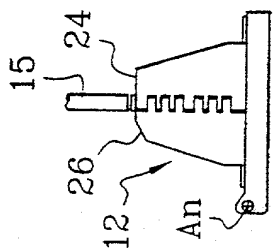


FIG.2b

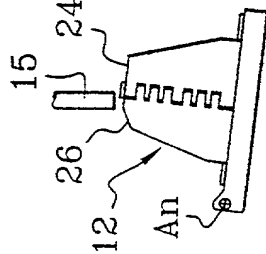


FIG.2c

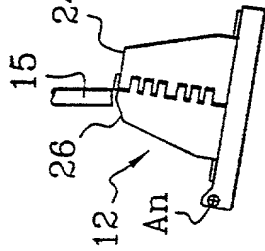


FIG.2d

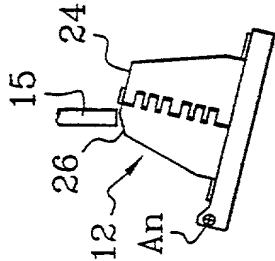


FIG.2e

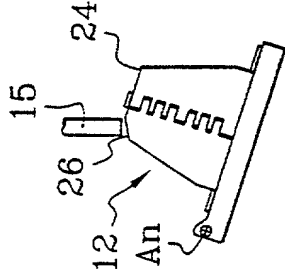


FIG.2f

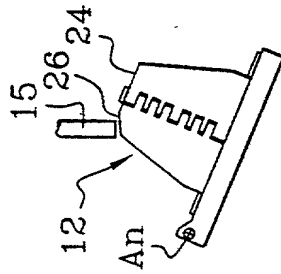


FIG.3a

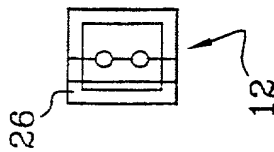


FIG.3b

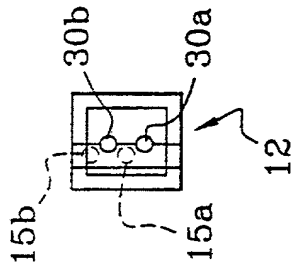


FIG.3c

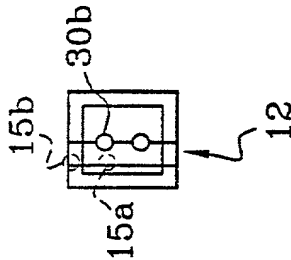


FIG.3d

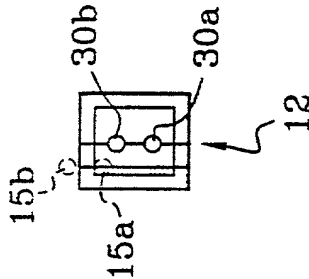


FIG.3e

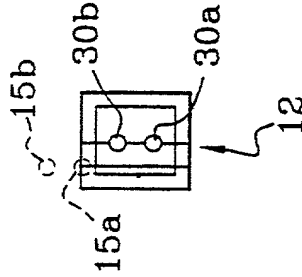
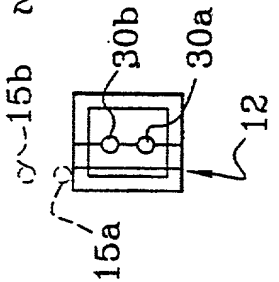


FIG.3f



Declaration and Power of Attorney for Patent Application

Déclaration et pouvoirs pour demande de brevet

French Language Declaration

En tant que l'inventeur nommé ci-après, je déclare par le présent acte que :

Mon domicile, mon adresse postale et ma nationalité sont ceux figurant ci-dessous à côté de mon nom.

Je crois être le premier inventeur original et unique (si un seul nom est mentionné ci-dessous), ou l'un des premiers co-inventeurs originaux (si plusieurs noms sont mentionnés ci-dessous) de l'objet revendiqué, pour lequel une demande de brevet a été déposée concernant l'invention intitulée

et dont la description est fournie ci-joint à moins que la case suivante n'ait été cochée :

- ☐ a été déposée le _____
sous le numéro de demande des Etats-Unis ou le numéro
de demande international PCT
_____ (n° de confirmation _____)
et modifiée le _____
_____ (le cas échéant).

Je déclare par le présent acte avoir passé en revue et compris le contenu de la description ci-dessus, revendications comprises, telles que modifiées par toute modification dont il aura été fait référence ci-dessus.

Je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations.

As a below named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

ROTARY EXTRUSION/BLOW-MOLDING BOOK MOLD
MACHINE

the specification of which is attached hereto unless the following box is checked:

- ☒ was filed on September 12, 2000
as United States Application Number or PCT
International Application Number
PCT/FR00/02504 (Conf. No. Unknown)
and was amended on _____
_____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

French Language Declaration

Je revendique par le présent acte avoir la priorité étrangère, en vertu du Titre 35, § 119(a)-(d) ou § 365(b) du Code des Etats-Unis, sur toute demande étrangère de brevet ou certificat d'inventeur ou, en vertu du Titre 35, § 365(a) du même Code, sur toute demande internationale PCT désignant au moins un pays autre que les Etats-Unis et figurant ci-dessous et, en cochant la case, j'ai aussi indiqué ci-dessous toute demande étrangère de brevet, tout certificat d'inventeur ou toute demande internationale PCT ayant une date de dépôt précédant celle de la demande à propos de laquelle une priorité est revendiquée.

Prior foreign application(s)
Demande(s) de brevet antérieure(s)

99/12370	France
(Number)	(Country)
(Numéro)	(Pays)

(Number)	(Country)
(Numéro)	(Pays)

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 119(e) du Code des Etats-Unis, de toute demande de brevet provisoire effectuée aux Etats-Unis et figurant ci-dessous.

(Application No.)	(Filing Date)
(N° de demande)	(Date de dépôt)

(Application No.)	(Filing Date)
(N° de demande)	(Date de dépôt)

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 120 du Code des Etats-Unis, de toute demande de brevet effectuée aux Etats-Unis, ou en vertu du Titre 35, § 365(c) du même Code, de toute demande internationale PCT désignant les Etats-Unis et figurant ci-dessous et, dans la mesure où l'objet de chacune des revendications de cette demande de brevet n'est pas divulgué dans la demande antérieure américaine ou internationale PCT, en vertu des dispositions du premier paragraphe du Titre 35, § 112 du Code des Etats-Unis, je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations, dont j'ai pu disposer entre la date de dépôt de la demande antérieure et la date de dépôt de la demande nationale ou internationale PCT de la présente demande :

(Application No.)	(Filing Date)
(N° de demande)	(Date de dépôt)

(Application No.)	(Filing Date)
(N° de demande)	(Date de dépôt)

Je déclare par le présent acte que toute déclaration ci-incluse est, à ma connaissance, véridique et que toute déclaration formulée à partir de renseignements ou de suppositions est tenue pour véridique; et de plus, que toutes ces déclarations ont été formulées en sachant que toute fausse déclaration volontaire ou son équivalent est passible d'une amende ou d'une incarcération, ou des deux, en vertu de la Section 1001 du Titre 18 du Code des Etats-Unis, et que de telles déclarations volontairement fausses risquent de compromettre la validité de la demande de brevet ou du brevet délivré à partir de celle-ci.

I hereby claim foreign priority under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below, and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Priority Claimed
Droit de priorité revendiqué
Yes/Oui No/Non

29 September 1999	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(Day/Month/Year Filed)		
(Jour/Mois/Année de dépôt)		

	<input type="checkbox"/>	<input type="checkbox"/>
(Day/Month/Year Filed)		
(Jour/Mois/Année de dépôt)		

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

(Status: patented, pending, abandoned)
(Statut : breveté, en cours d'examen, abandonné)

(Status: patented, pending, abandoned)
(Statut : breveté, en cours d'examen, abandonné)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

French Language Declaration

POUVOIRS : je désigne par les présentes tous avocats de SUGHRUE MION, PLLC énumérés sous le Numéro de Client USPTO figurant ci-après comme mes avocats pour poursuivre la présente procédure et traiter avec l'Office des brevets et des marques (*Patent and Trademark Office*) toute affaire en liaison avec celle-ci, reconnaissant formellement que les avocats spécifiques énumérés sous ce Numéro de Client peuvent être modifiés à tout moment, à la discrétion exclusive de Sughrue Mion, PLLC, et demande que toute correspondance relative à la demande soit adressée à l'adresse mentionnée sous le même Numéro USPTO.

POWER OF ATTORNEY: I hereby appoint all attorneys of SUGHRUE MION, PLLC who are listed under the USPTO Customer Number shown below as my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith, recognizing that the specific attorneys listed under that Customer Number may be changed from time to time at the sole discretion of Sughrue Mion, PLLC, and request that all correspondence about the application be addressed to the address filed under the same USPTO Customer Number.



23373

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Direct Telephone Calls to: (name and telephone number)

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Nom complet de l'unique ou premier inventeur <div style="text-align: right; margin-right: 50px;">100</div>	Full name of sole or first inventor <u>Jean SATTLER</u>
Signature de l'inventeur <div style="text-align: right;">Date</div>	Inventor's signature <i>[Signature]</i> Date March 12, 2002
Domicile	Residence F-76053 <u>Le Havre Cedex</u> , FRANCE <i>FRX</i>
Nationalité	Citizenship French
Adresse postale	Mailing Address c/o Sidel, Boite postale 204, F-76053 Le Havre Cedex, FRANCE
Nom complet du deuxième co-inventeur, le cas échéant <div style="text-align: right; margin-right: 50px;">200</div>	Full name of second joint inventor, if any <u>Philippe DEROUAULT</u>
Signature du deuxième inventeur <div style="text-align: right;">Date</div>	Second inventor's signature <i>[Signature]</i> Date March 12, 2002
Domicile	Residence F-76053 <u>Le Havre Cedex</u> , FRANCE <i>FRX</i>
Nationalité	Citizenship French
Adresse postale	Mailing Address c/o Sidel, Boite postale 204, F-76053 Le Havre Cedex, FRANCE